New Jersey DOHSS / AHRQ / NASHP

Making New Jersey a Model for Best Practices in Health Care

Hilton Hotel, East Brunswick, New Jersey

Wednesday, 19 February 2003 -- 8:45a - 9:45a

The Business Case for Quality

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1912 : The 'Great Divide'

"... for the first time in human history, a random patient with a random disease consulting a doctor chosen at random stands a better than 50/50 chance of benefitting from the encounter."

Harvard Professor L. Henderson

(Harris, Richard. *A Sacred Trust*. New York, NY: New American Library, 1966)

The emergence of modern medicine

~1860 - 1910:

- ***new high standards for clinical education***
- ***strict requirements for professional licensing***
- ***clinical practice founded on scientific research***
- ***new internal organization for hospitals***

Current American health care

is the best the world has ever seen

A few simple examples:

- ***From 1900 to 2000, average life expectancy at birth increased from only 49 years to almost 80 years.***
- ***Since 1960, age-adjusted mortality from heart disease (#1) has decreased by 56%; and*** *(from 307.4 to 134.6 deaths / 100,000)*
- ***Since 1950, age-adjusted mortality from stroke (#3) has decreased by 70%.*** *(from 88.8 to 26.5 deaths / 100,000)*

Initial life expectancy gains almost all resulted from public health initiatives -- clean water, safe food, and (especially) widespread control of epidemic infectious disease. But since about 1960, direct disease treatment has make increasingly large contributions.

Centers for Disease Control. Decline in deaths from heart disease and stroke--United States, 1900-1999. *JAMA* 1999; 282(8):724-6 (Aug 25).

National Center for Health Statistics. *Health, United States, 2000 with Adolescent Health Chartbook.* Hyattsville, MD: U.S. Dept. of Health and Human Services, Center for Disease Control and Prevention, 2000; pg. 7 (DHHS Publication No. (PHS) 2000-1232-1).

U.S. Department of Health and Human Services, Public Health Service. *Healthy People 2000: National Health Promotion and Disease Prevention Objectives.* Washington, DC: U.S. Goverment Printing Office, 1991 (DHHS Publication No. (PHS) 91-50212).

1973: Dr. John Wennberg

- ★ *Geography is destiny*
- ★ *There is no health care "system"*
- ★ *Supplier-induced demand:*
  - *Field of Dreams approach: Build it and they will come*
  - *James T. Kirk: Do something, Bones! She's dying!*
  - *Eddy: More is better -- if it might work, do it*
  - *Chassin: Enthusiasm for unproven methods*

The Dartmouth Atlas:

	UVRMC	McKay-Dee
Prostate procedures	↓↓	↑↑
Spinal fusion procedures	↑↑↑	↓↓

November 30, 1999:

The Institute of Medicine

Committee on Quality of Health Care in America

announces its first report:

To Err is Human: ***Building a Safer Health System***

Medical injuries

Account for

44,000 - 98,000 preventable deaths per year

in the United States

More people die from medical injuries than from breast cancer or AIDS or motor vehicle accidents

Brennan et al. *New Engl J Med 1991*
Thomas et al. *1999*

That extraplotes to

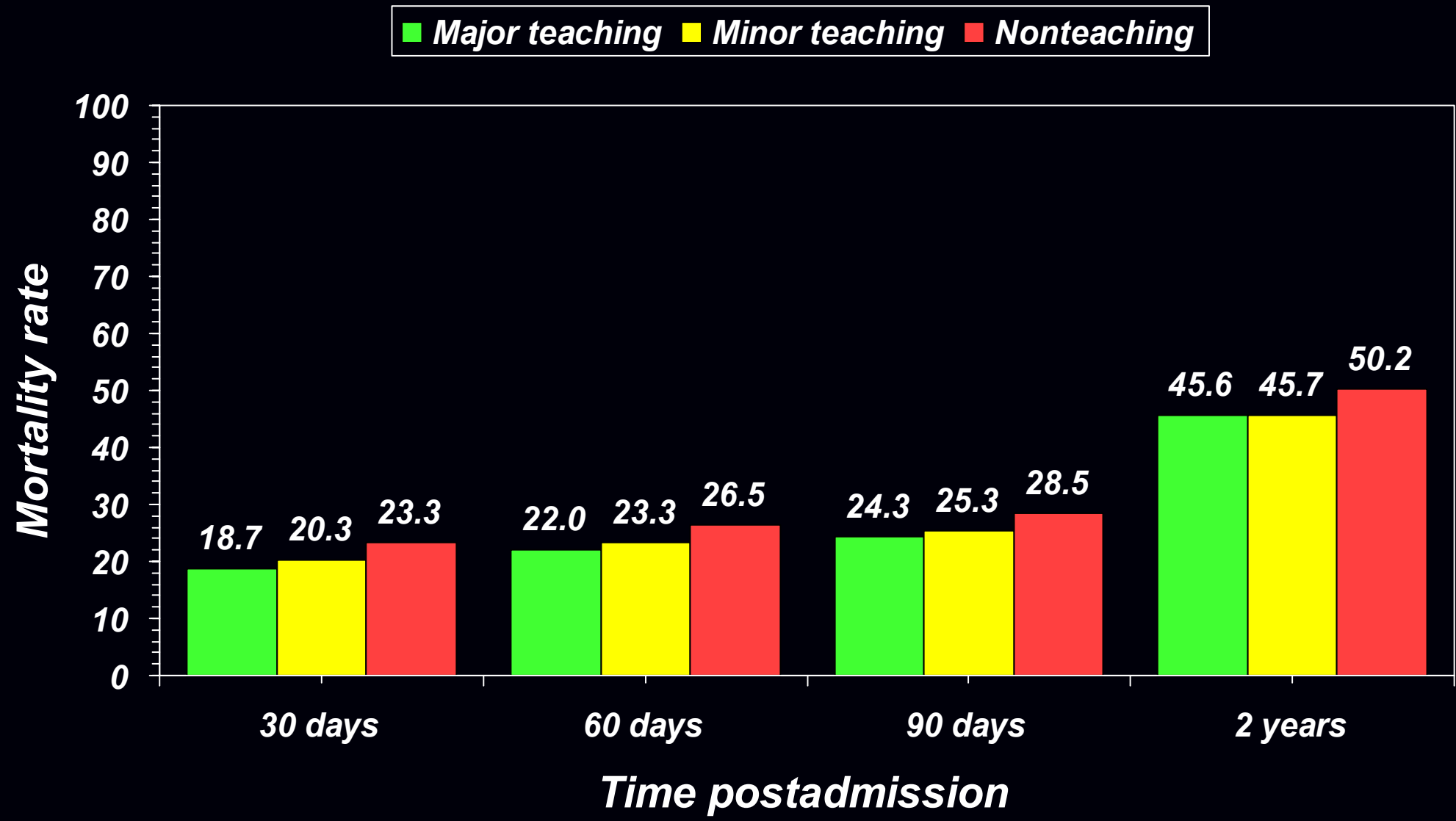
159 - 354 preventable deaths per year

in IHC hospitals

The debate over medical injury

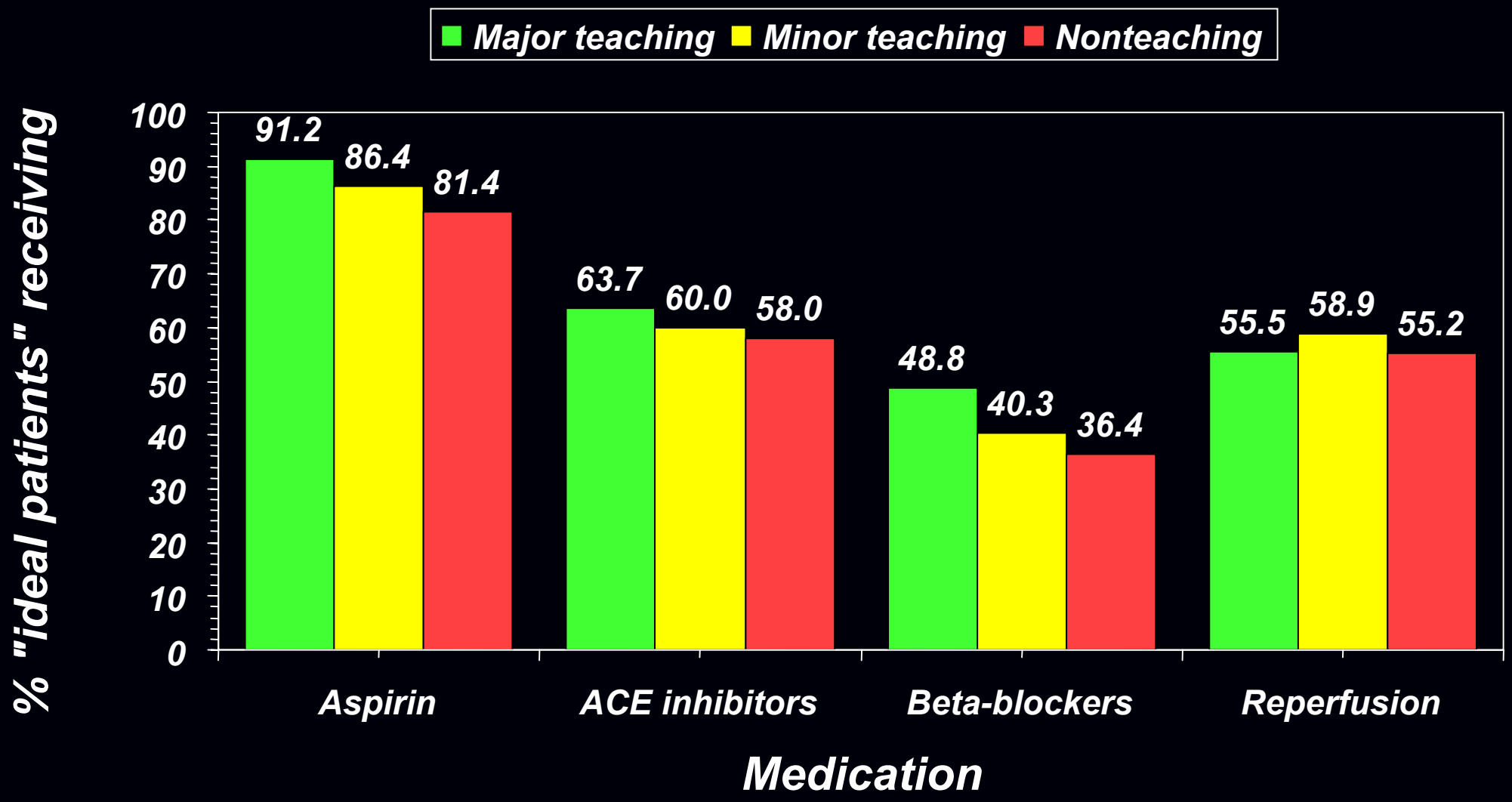
- *Institute of Medicine.* To Err Is Human: Building a Safer Health System. *LT Kohn, JM Corrigan, MS Donaldson, eds. Washington, DC: National Academy Press, 1999.* *(www.nap.edu)*
- *Brennan TA. The Institute of Medicine report on medical errors: could it do harm?* N Engl J Med *2000; 342:1123-5.*
- *IOM Quality of Health Care in America Committee. The Institute of Medicine report on medical errors: misunderstanding can do harm.* Medscape General Medicine *(www.MedScape.com) 2000; 2(5):1-5 (19 Sep).*
- *McDonald CJ, Weiner MW, Hui SL. Deaths due to medical errors are exaggerated in the Institute of Medicine report.* JAMA *2000; 284(1):93-5 (July 5).*
- *Leape LL. Institute of Medicine medical error figures are not exaggerated.* JAMA *2000; 284(1):95-7 (July 5).*
- *Hayward RA, Hofer TP. Estimating hospital deaths due to medical errors: preventability is in the eye of the reviewer. JAMA 2001; 286(4):415-20 (July 25).*

How good is American health care?



Allison JJ *et al*. Relationship of hospital teaching with quality of care and mortality for Medicare patients with acute MI. *JAMA* 2000; 284(10):1256-62 (Sep 13).

How good is American health care?



Allison JJ *et al*. Relationship of hospital teaching with quality of care and mortality for Medicare patients with acute MI. *JAMA* 2000; 284(10):1256-62 (Sep 13).

How good is American health care?

Extensive literature review performed at RAND in 1998:

- *Only 50% of Americans receive recommended preventive care*

- *Patients with acute illness:*
  70% received recommended treatments
  30% received contraindicated treatments

- *Patients with chronic illness:*
  60% received recommended treatments
  20% received contraindicated treatments

Schuster MA, McGlynn EA, Brook RH. How good is the quality of healthcare in the United States? ***Milbank Quarterly*** 1998; 76(4):517-63 (Dec).

March 1, 2001:

The Institute of Medicine

Committee on Quality of Health Care in America

announces its second report:

Crossing the Quality Chasm:
A New Health System for the 21st Century

"Between the health care we have and the care we could have lies not just a gap, but a chasm."

A failure of execution

The science of current, modern medicine is the best the world has ever seen ;

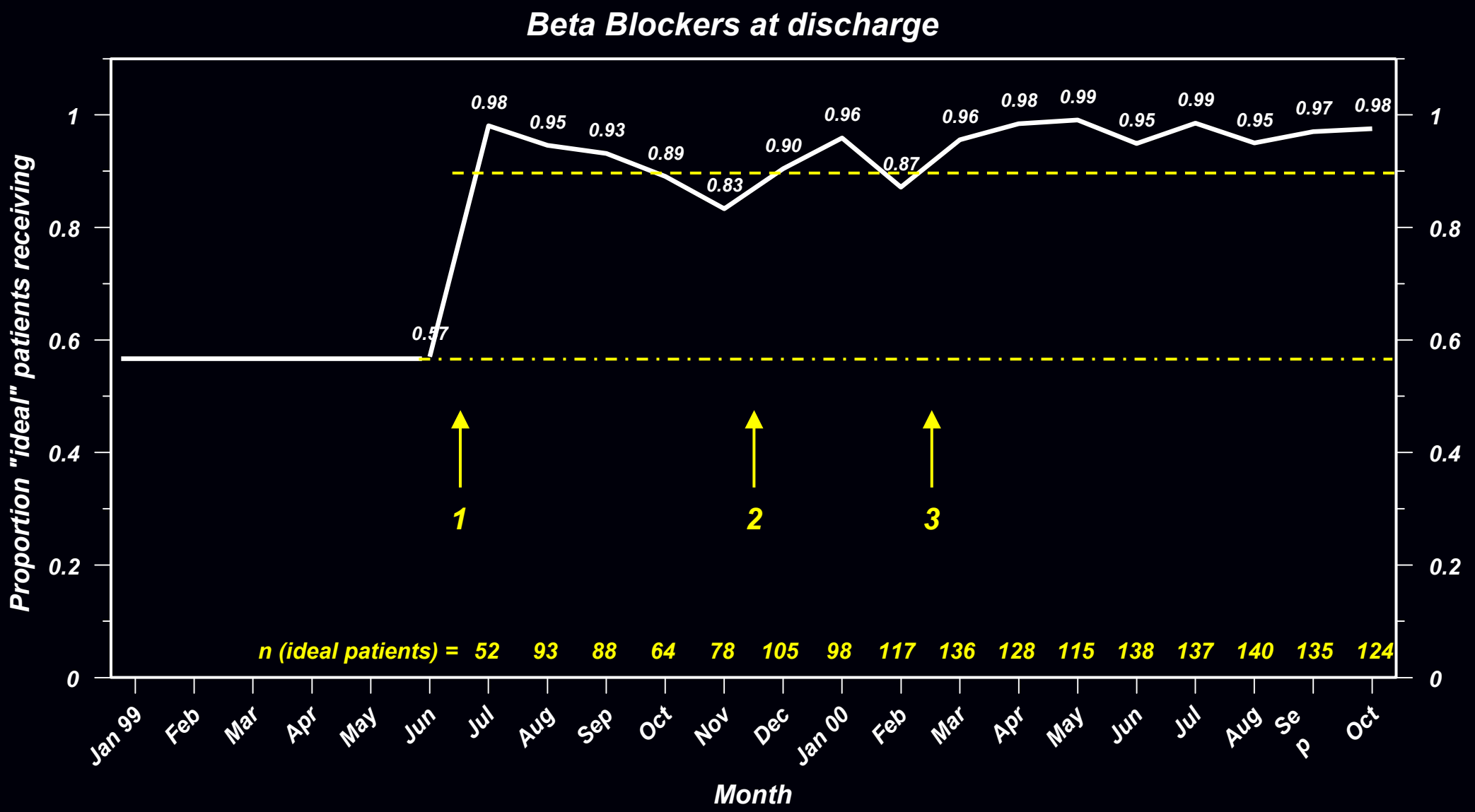
(and continues to improve rapidly)

while the performance of modern care delivery leaves much to be desired.

Chassin, MR, Galvin, RW, and the National Roundtable on Health Care Quality. The urgent need to improve health care quality. *JAMA* 1998; 280(11):1000-1005.

Chassin, M. Is health care ready for six sigma quality? *Milbank Quarterly* 1998; 76(4):1-14.

Beta blockers at discharge



Cardiac discharge meds

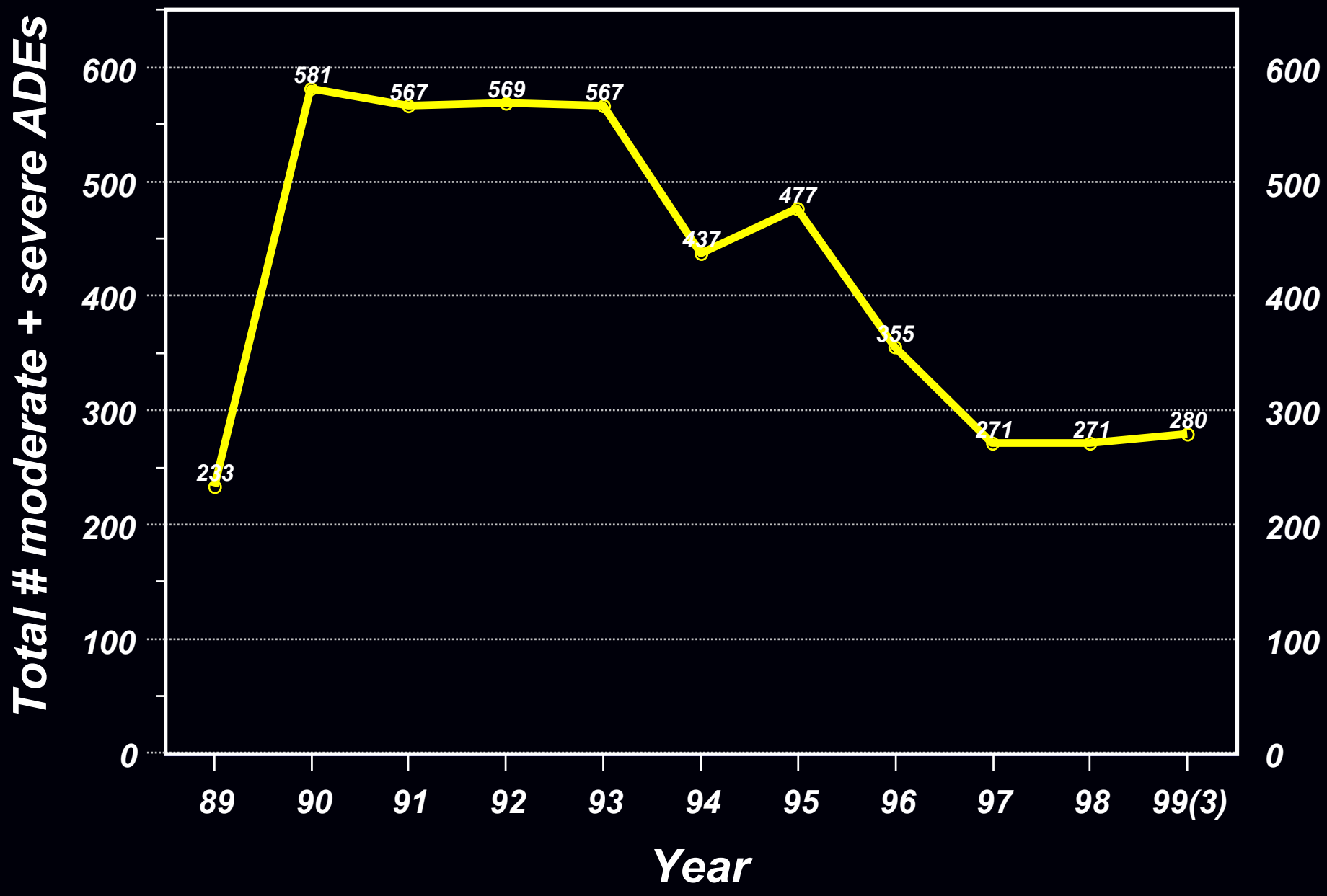
	Before	After	National 2000
Beta blockers	57%	97%	41%
ACE / ARB inhibitors	63%	95%	62%
Statins	75%	91%	37%
Antiplatelet	42%	98%	70%
Wafarin (chronic AFib)	10%	92%	<10%

	Mortality at 1 year			Readmissions w/ in 1 year		
	Before	After		Before	After	
CHF (n = 19,083)	22.7%	17.8%	331	46.5%	38.5%	551
IHD (n = 43,841)	4.5%	3.5%	124	20.4%	17.7%	336
Total			455			887

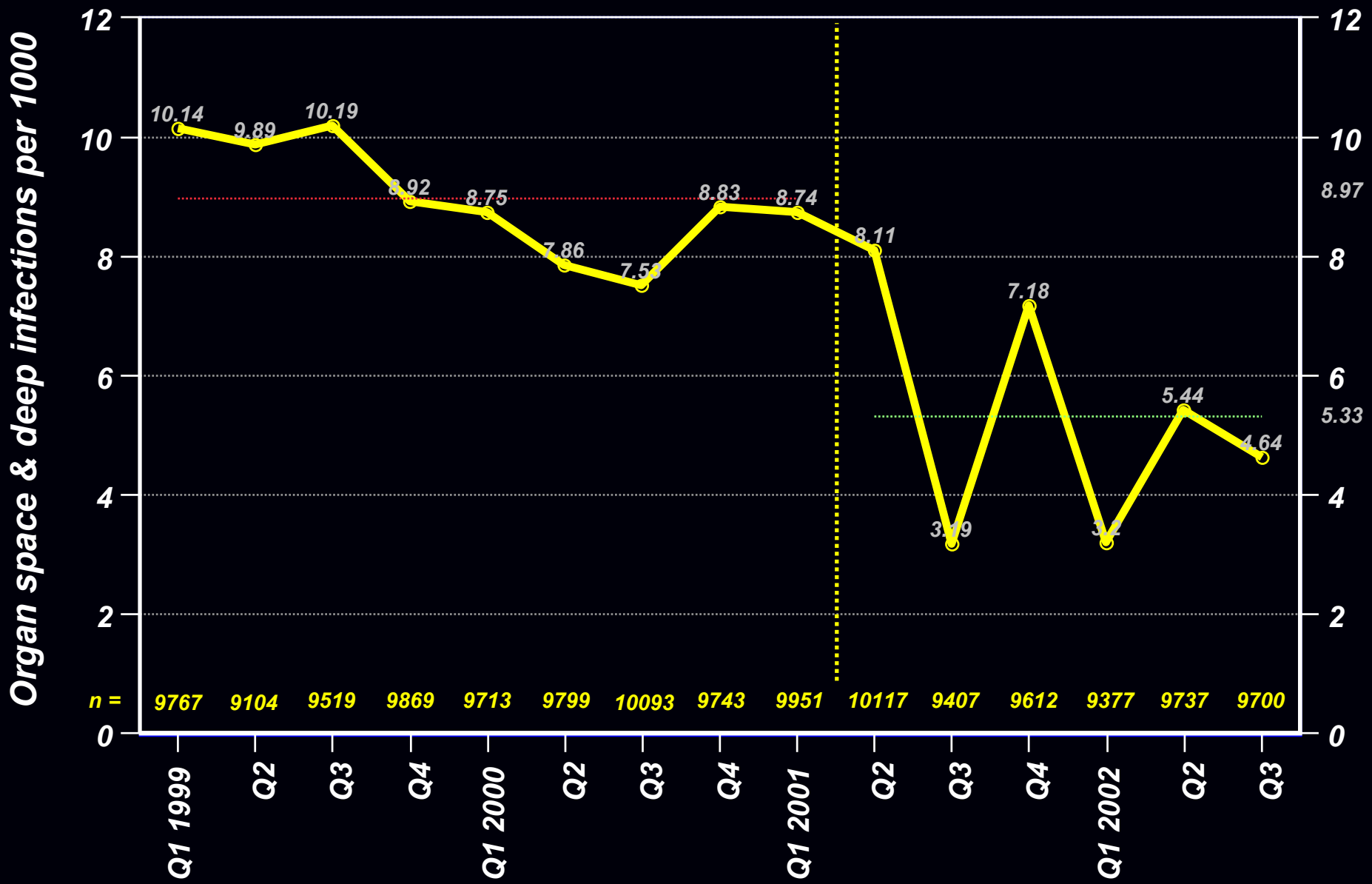
High frequency injuries sources

1. *Adverse drug events (ADEs, ADRs)*
2. *Iatrogenic infections*
   - *post-operative deep wound infections*
   - *urinary tract infections (UTI)*
   - *lower respiratory infections (pneumonia or bronchitis)*
   - *bacteremias and septicemias*
3. *Decubitus ulcers*
4. *Deep venous thrombosis (DVT) / pulmonary embolism (PE)*
5. *Strength, agility and cognition* *(injuries and restraints)*
6. *Blood product transfusion*
7. *Complications of central and peripheral venous lines*
8. *Patient transitions*

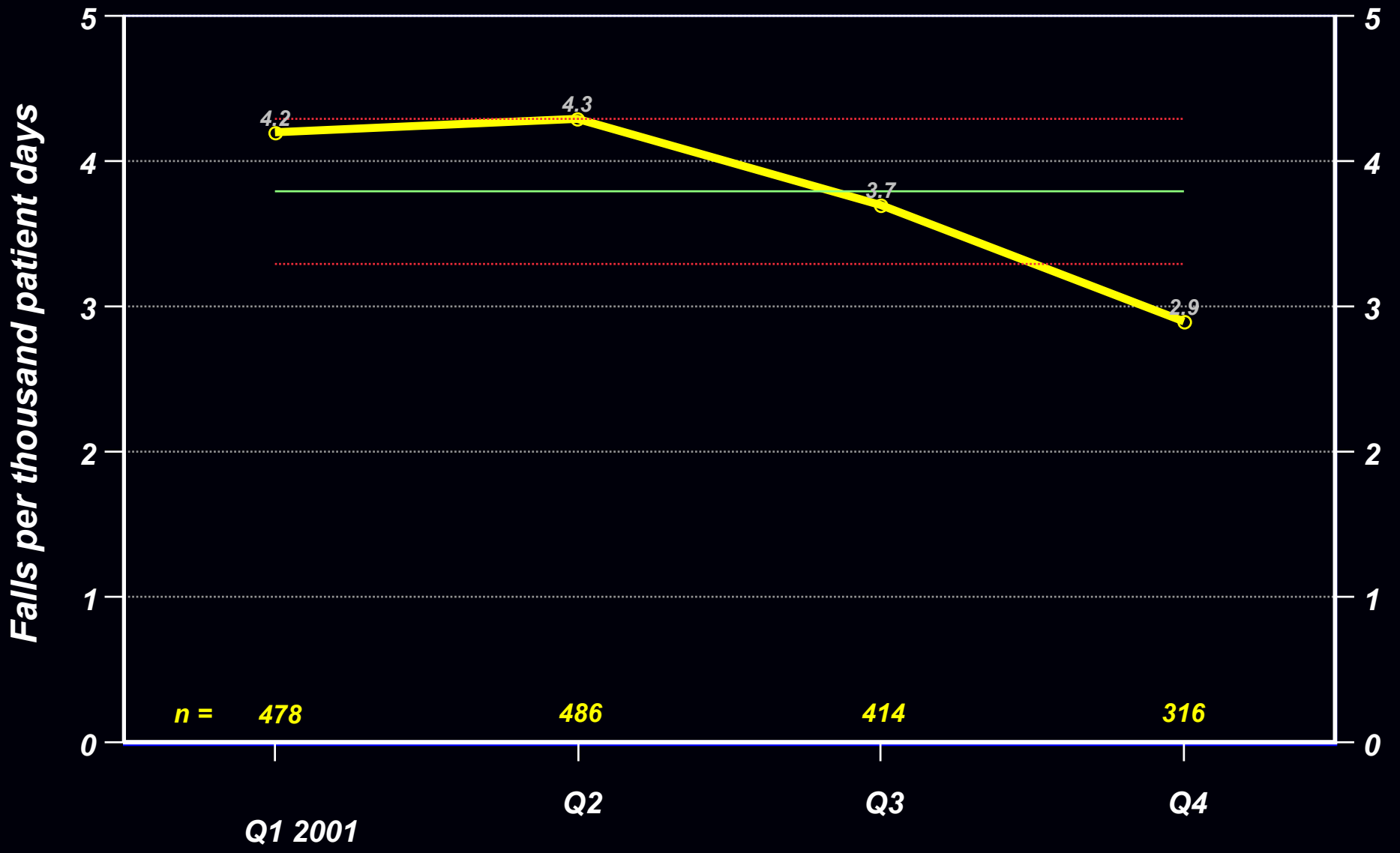
ADEs at LDS Hospital



Prophylactic antibiotics on time

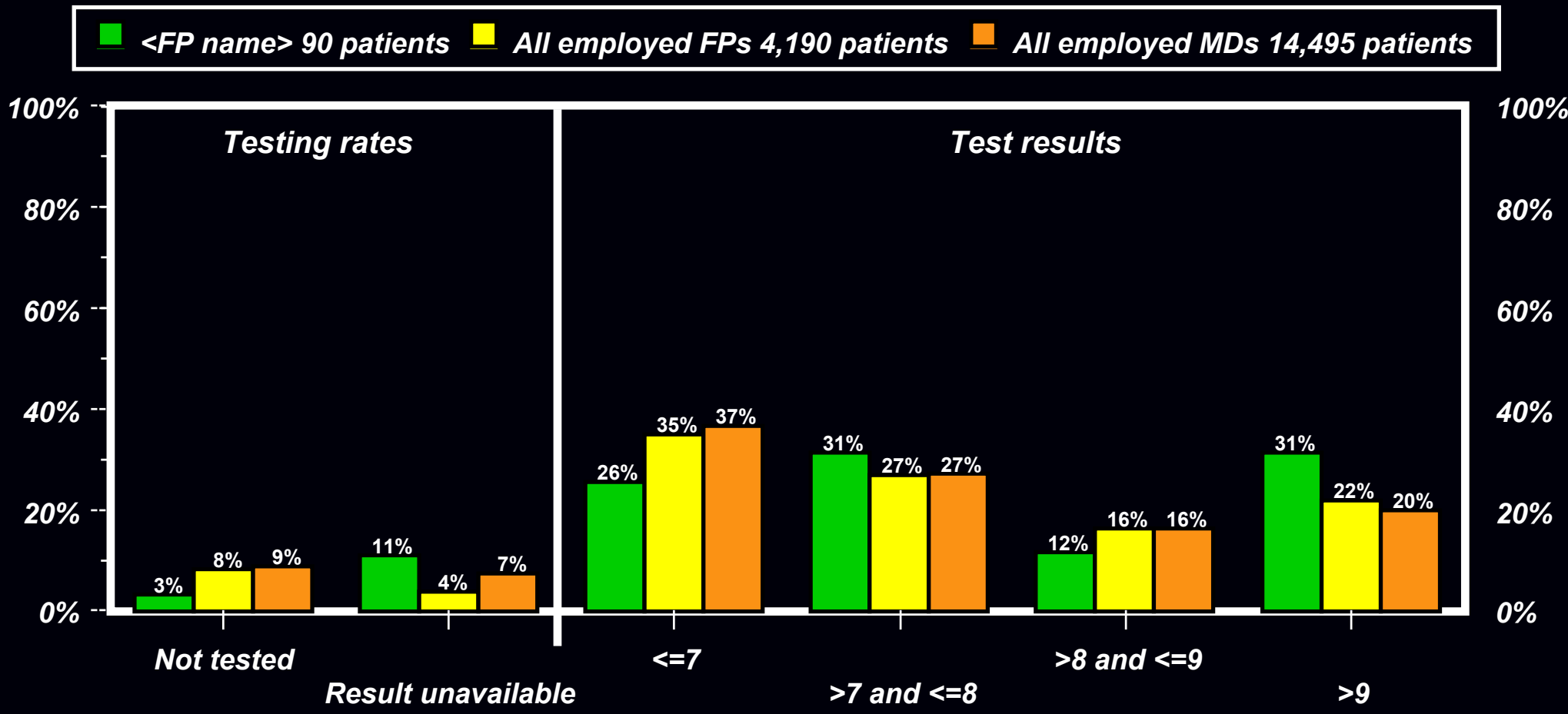


Patient falls and injuries



Diabetes MD report

HgbA1c Testing Among Employed MDs



Hemoglobin A1c Testing -- Summary of Last Test

Data source: IDX 1 Jan 08 thru 31 Dec 08

Diabetes worksheet

15 Mar 99 ID# 12345

Clinical Workstation Diabetes Worksheet

PATIENT NAME	SEX	DOB	
DOE, JOHN Q.	**M**	**05/21/1933**	**- Diabetes Mellitus [250]**

Active Medications

1. - Glucophage (metformin hcl), 500mg, tablet, 1 tablet bid

HgbA1c (<=7.0)

02/10/1999	6.6%
11/29/1998	6.9%
10/11/1998	7.5%

LDL (<100) TriG (<200)

02/10/1999	113 mg/dl	211 mg/dl

BP (<135/85)

02/10/1999	136/84 mmHg
11/29/1998	130/80 mmHg
10/11/1998	130/78 mmHg

UA Protein

10/11/1998	Negative

uAlb/Cr (<30)

10/29/1998	9.55

24° Urine Albumin (<30)

Dilated retinal exam

10/11/1998	Robert Christiansen, MD

Pedal sensory exam

10/11/1998	Normal

Diabetes outlier patient list

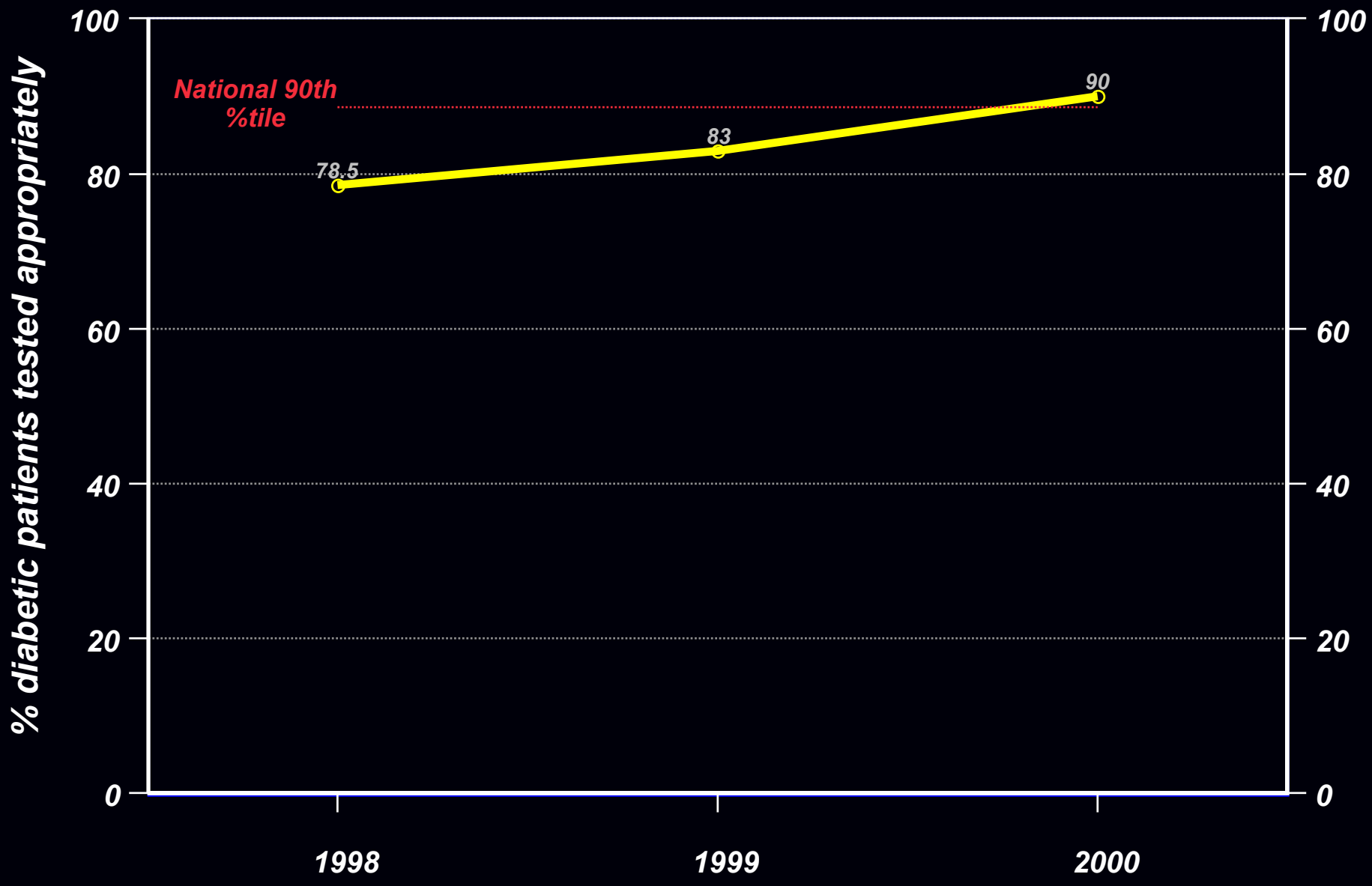
15 Mar 99 1

Clinical Workstation Diabetes Action List

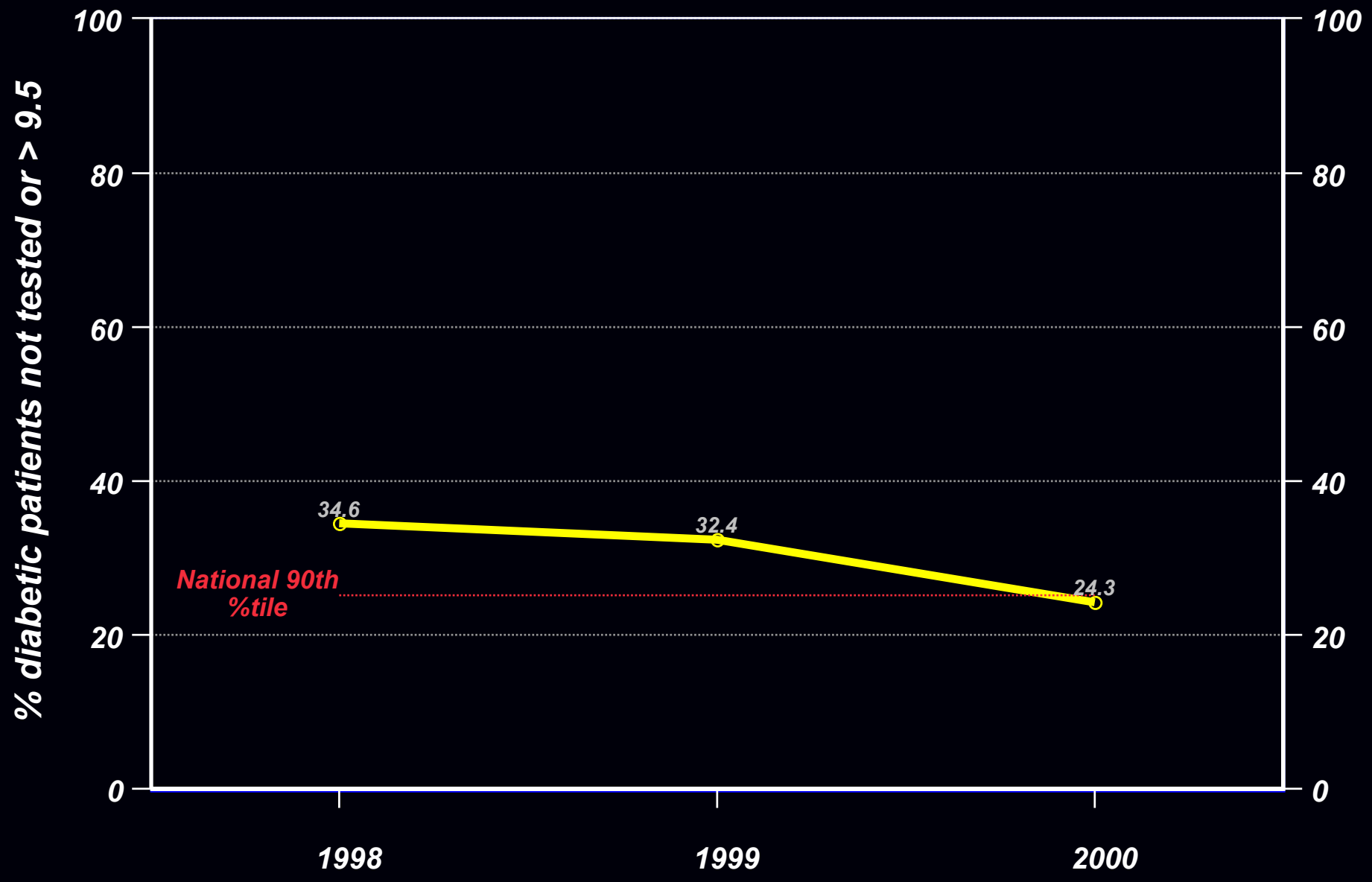
Physician Name: XXXXXX, XXXXXX X (Internal Medicine)

		Examinations Presently Due				
Pt. Name	**IDX-MRN**	**A1c**	**Lipid Panel**	**Urine Protein**	**Retinal Exam**	**Sensory Exam**
XXXXX, XXXXXX X	XXXXXXX	15DEC1998	13FEB1998	13FEB1998		
XXX, XXXXXX X	XXXXXXX				9MAR1998	
XXXXXX, XXXXX	XXXXXXX	12SEP1998			11MAR1998	11MAR1998
XXXX, XXXXXXXX X	XXXXXXX	9AUG1998		14MAR1998		
XXXXXXXX, XXXXXX	XXXXXXX	11MAR1998	11MAR1998	11MAR1998		11MAR1998
XXXXXXXXX, XXXXX	XXXXXXX		08MAR1998	08MAR1998	11MAR1998	
XXXXX, XXXXXXXXX	XXXXXXX		24FEB1998	24FEB1998	9MAR1998	
XXXXXXXXX, XXXXX	XXXXXXX	4DEC1997	4DEC1997	4DEC1997	22DEC1997	4DEC1997
XXXXX, XXXXXX X	XXXXXXX	29NOV1998		3MAR1998		
XXXX, XXXXX X	XXXXXXX	14AUG1998				
XXXXX, XXXXX X	XXXXXXX	12AUG1998				

HbA1c testing



Poor HbA1c control

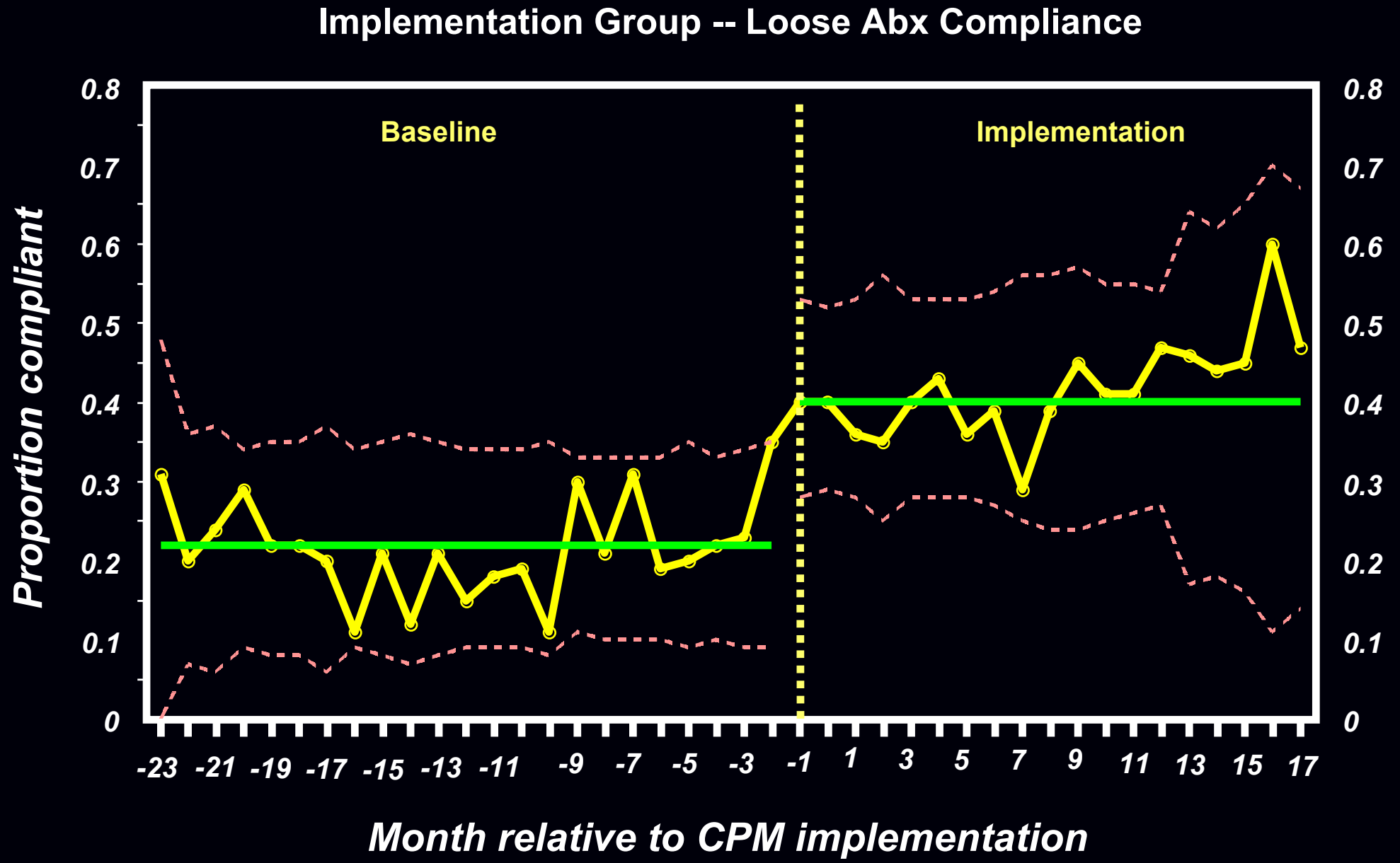


Community acquired pneumonia

	1994 without guideline	1995 with guideline
% patients admitted	39%	29%
Average LOS	6.4 days	4.3 days
Time to antibiotic	2.1 hours	1.5 hours
Average cost / case	$2752	$1424

Sanpete Hospital and Clinics

CAP protocol compliance



Community acquired pneumonia

	without protocol	with protocol		
"Outlier" (complication) DRG at discharge	15.3%	11.6%	↓ 24.7%	p<0.001
In-hospital mortality	7.2%	5.3%	↓ 26.3%	p=0.015
Relative resource units (RRUs) per case	55.9	49.0	↓ 12.3%	p<0.001
Cost per case	$5211	$4729	↓ 9.3%	p=0.002

The medical profession is changing

From ***craft-based practice***

- ***individual physicians, working alone*** *(housestaff ::= apprentices)*
- ***handcraft a customized solution for each patient***
- ***based on a core ethical commitment to the patient and***
- ***vast personal knowledge gained from training and experience***

To ***profession-based practice***

- ***groups of peers, treating similar patients in a shared setting***
- ***plan coordinated care delivery processes*** *(e.g., standing order sets)*
- ***which individual clinicians adapt to specific patient needs***
- *early experience shows*
  - ***less expensive*** *(facility can staff, train, supply an organize to a single core process)*
  - ***less complex*** *(which means fewer mistakes and dropped handoffs, less conflict)*
  - ***better patient outcomes***

Lean production

- *standardized processes* *with*
- *"smart cogs"* *that*
- *adapt to individual needs*

That is, "mass customization:"

efficient processes that can deal with complexity

Why "profession-based" practice?

1. *It produces better outcomes for our patients*

2. *It eliminates waste, reduces costs, and increases available resources for patient care*

3. *It puts the caring professions back in control of care delivery*

4. *It is the foundation for useful shared electronic data -- an important next step in care delivery improvement*

Quality controls costs

	Quality	Cost	Forum	Potential Savings
Waste:				
Quality waste	↑	↓	*internal*	*25-40%*
Inefficiency waste	–	↓	*internal*	*> 50%*
Cost-benefit	↑	↑	*society*	*(none)*

The business case for quality

		1998	1999	2000	2001	2002 (proj)	Total
Central							
	Beh Health	316,411	292,724	89,583	113,702	160,000	
	Primary Care	530	457,050	409,180	441,238	446,000	
	Cardiovascular	389,138	303,244	382,957	387,363	405,000	
	Neuro / Other	-	15,962	29,000	40,000	30,000	
	Women & Newborn	367,266	305,599	338,737	331,600	370,000	
	Clinical Integration	635,488	341,869	481,174	514,287	585,000	
	Subtotal- central	**1,708,793**	**1,716,448**	**1,730,631**	**1,828,190**	**1,996,000**	
Regional							
	Beh Health						
	Primary Care						
	Cardiovascular	250,000	265,000	270,000	276,000	290,000	
	Neuro / Other				52,000	-	
	Women & Newborn	180,000	225,000	227,000	231,000	240,000	
	Subtotal- reg+central	**2,138,793**	**2,206,448**	**2,227,631**	**2,387,190**	**2,526,000**	
	PRS and analysts	200,000	250,000	250,000	375,000	165,000	
Total Costs		2,338,793	2,456,448	2,477,631	2,762,190	2,691,000	12,726,062
CV-	Ischemic			2,915,485	4,114,685	926,000	
	CABG			560,000	310,000	848,000	
	Heart failure (decreased readmits)					410,000	
	Vendor strategies		1,255,645	1,362,305	4,414,498	699,400	
W&N-	Normal deliveries				1,200,000	2,200,000	
	Preterm labor				250,000	204,000	
	Vendor strategies		144,094	30,822	72,080	25,800	
Peds-	Vendor strategies		11,000	20,783			
Prim-	Pneumonia				125,000	1,330,000	
	Asthma			5,088	17,360	20,600	
	Otitis media				31,547	158,800	
	Acute bronchitis			11,005	8,177	57,600	
Total Variable Savings				4,905,488	10,543,347	6,880,200	22,329,035